

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001

TIME: 09:18:58

Input Set : A:\lex286usa SEQLIST.TXT
 Output Set: N:\CRF3\10182001\I750456.raw

ENTERED

```

4 <110> APPLICANT: Friedrich, Glenn
5      Zambrowicz, Brian
6      Sands, Arthur T.
8 <120> TITLE OF INVENTION: Novel Mutated Mammalian Cells and Animals
10 <130> FILE REFERENCE: LEX-0286-USA
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/750,456
C--> 12 <141> CURRENT FILING DATE: 2000-11-30
12 <150> PRIOR APPLICATION NUMBER: US 09/728,445
13 <151> PRIOR FILING DATE: 2000-11-30
15 <150> PRIOR APPLICATION NUMBER: US 60/168,358
16 <151> PRIOR FILING DATE: 1999-12-01
18 <160> NUMBER OF SEQ ID NOS: 891
20 <170> SOFTWARE: FastSEQ for Windows Version 4.0
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 449
24 <212> TYPE: DNA
25 <213> ORGANISM: Mus musculus
27 <220> FEATURE:
28 <221> NAME/KEY: misc_feature
29 <222> LOCATION: (1)...(449)
30 <223> OTHER INFORMATION: n = A,T,C or G
32 <400> SEQUENCE: 1

W--> 33 aggcttgaa gagatccgca aatgtggant gaaaaacttc cgnaacatcc agngtcatga 60
34 ggctaattta ttgacttggc aagggttat ttttcctgac aaccctccat atgataagg 120
35 agccttcaga attgaaatca actttccagc agagtatcca ttcaaaccac ccaagatcac 180
36 atttaaaaca aagatctacc accctaacat cgatgagaag gggcaggtct gtctgccagt 240
37 cattagtgtc gaaaactgga agccagccac caagactgac caagtaatcc agtccctcat 300
38 agcaactggtg aatgaccccc agcctgagca cccactccgg gctgacctag ctgaagaata 360
39 ctcttaaggac cgtaaaaaat tctgttaagaa tgctgaagag tttacaaaga aatatggg 420
40 aaaagccgac ctgggggctt aaaatctgc 449

42 <210> SEQ ID NO: 2
43 <211> LENGTH: 397
44 <212> TYPE: DNA
45 <213> ORGANISM: Mus musculus
47 <220> FEATURE:
48 <221> NAME/KEY: misc_feature
49 <222> LOCATION: (1)...(397)
50 <223> OTHER INFORMATION: n = A,T,C or G
52 <400> SEQUENCE: 2

W--> 53 atttgccagc tgaaggcatt tacattcgga gttccgcggc ctcttcanaag gctgtaaaaa 60
W--> 54 tgccggagtc acnnaaggct gcaaaaagct gttgtttgcc ttgtgtgtc tgctgtact 120
55 gccgtccctg cccgtgtgc aagctgtac tcctgtgtc gctgtgtgc cttgttgtgc 180
56 attgttgcgg ttgtgtgttgc tggtttactg tttgtgtccg gctggattgc tggattgtgc 240
W--> 57 attgccagtc gggnaaatcc tggnnataaa aatccanctt gccccanaaa acangacnac 300
W--> 58 cctnnaggaa gtattctaattt gattcaatn cgccctttcc ccctctnacc tttctctt 360
59 accttatgtc ggggattgg aagggtggca aaaaaaaaaa 397
61 <210> SEQ ID NO: 3

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001
TIME: 09:18:58

Input Set : A:\lex286usa SEQLIST.TXT
Output Set: N:\CRF3\10182001\I750456.raw

```

62 <211> LENGTH: 285
63 <212> TYPE: DNA
64 <213> ORGANISM: Mus musculus
66 <220> FEATURE:
67 <221> NAME/KEY: misc_feature
68 <222> LOCATION: (1)...(285)
69 <223> OTHER INFORMATION: n = A,T,C or G
71 <400> SEQUENCE: 3
W--> 72 gatggagaaa ctgaggttcc gcatacgaanc aggctgattc agacctcgct gccactgagt 60
    atgagaccac ctggggtgaa acttagatgg ctctattgtt ctgtcacctg ccgcactcc 120
    tctccaagac actgttacct gcccttgaga tattccggag acagcatccc gcagatcacc 180
    tacaggctgg cgacaggcac caagaatgga ttgggtgggg atgggcctcc cctcttata 240
    cqcacagagt cttagtaaat tttgggtcct tgaacagaaa aaaaa 285
78 <210> SEQ ID NO: 4
79 <211> LENGTH: 287
80 <212> TYPE: DNA
81 <213> ORGANISM: Mus musculus
83 <220> FEATURE:
84 <221> NAME/KEY: misc_feature
85 <222> LOCATION: (1)...(287)
86 <223> OTHER INFORMATION: n = A,T,C or G
88 <400> SEQUENCE: 4
W--> 89 caggagtaac aagtgtggag gtcnaaggan aactcttggaa atctcttcta tcctatcaca 60
W--> 90 tcngtctca gcatcnaaca tggccaaact cctcaaactt ggtancctgg nacttnaata 120
W--> 91 nccatcttan tgctaaaaaa agtttctcc tatgaagacc gtgtntcctg gctgtcctag 180
W--> 92 aatttgctgt gcnnaccaac ctggcctnna actcataaac ntttacctgc ctctgcctct 240
W--> 93 aaagtgttgg gattnaaagc attcccact atgtAACAAA caaaaaa 287
95 <210> SEQ ID NO: 5
96 <211> LENGTH: 417
97 <212> TYPE: DNA
98 <213> ORGANISM: Mus musculus
100 <220> FEATURE:
101 <221> NAME/KEY: misc_feature
102 <222> LOCATION: (1)...(417)
103 <223> OTHER INFORMATION: n = A,T,C or G
105 <400> SEQUENCE: 5
W--> 106 cgccccatcct aaattcctag ctgtctggg gtaggagntt cctgttcatt cgttctgata 60
W--> 107 nncccaactgn tgaaaactga ggngccacac tcgtatcnct ntcnaCNGGA cctaacatta 120
W--> 108 ttcgggangg aactctggc cncnccccca tcnttcaatn nnnntgtcgt ggngattggn 180
W--> 109 ttngaaccnt gntcagnata aagctaaaaa aaaccccatt gnctnnccatt tncaccanga 240
W--> 110 ccgggaagng tntnatatcn aggatccgaa taaggcttt caaggcttct ttgaccgaga 300
W--> 111 aggagaanag ttagaatatg aatttgatga gcaggacac atcacttggc tctgcagggt 360
W--> 112 gaggttaccc ttagatgatt cnctggaa acagctggg gctgaggcca ttcactc 417
114 <210> SEQ ID NO: 6
115 <211> LENGTH: 173
116 <212> TYPE: DNA
117 <213> ORGANISM: Mus musculus
119 <400> SEQUENCE: 6
120 gtctagaatg tatgtgccat gctggaaaca ggcctggatc gtctgcaaga gcagccatcg 60

```


RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001
TIME: 09:18:58

Input Set : A:\lex286usa SEQLIST.TXT
Output Set: N:\CRF3\10182001\I750456.raw

| | |
|---|------------|
| W--> 182 ctgggtggga ccacaaatnc aactatactg gaggctgatg canttctt aggactccaa | 120 |
| 183 gagatcaggg actcaaaatc aagagaggag caaccagca agtaatggac tgcgcttgct | 180 |
| 184 qtatttgaac ccatttttag cccagaaaac tataaataaa taaataattg aataaattta | 240 |
| W--> 185 tnataaatga aaagtaatcc tgtaaaaaaaaaaa aaa | 273 |
| 187 <210> SEQ ID NO: 11 | |
| 188 <211> LENGTH: 370 | |
| 189 <212> TYPE: DNA | |
| 190 <213> ORGANISM: Mus musculus | |
| 192 <220> FEATURE: | |
| 193 <221> NAME/KEY: misc_feature | |
| 194 <222> LOCATION: (1)...(370) | |
| 195 <223> OTHER INFORMATION: n = A,T,C or G | |
| 197 <400> SEQUENCE: 11 | |
| 198 actqaggtga ccttgaaag ttaacagggg tgccatggc tgagtaagat aaacggaact | 60 |
| 199 gctgttcaac cccgcccagt ctggggatga gtcattttt tcaaatttat gaacaaagca | 120 |
| 200 cacaaattaa gaataataca agcaagaaac agcagagaga cacaaaagga catagaatcc | 180 |
| 201 ctqatecctca ctgtgatctg gtaacactag ttcttaggct ggagagagag atgctcaggg | 240 |
| 202 caaqtgtct tacagagaac atgagttcaa ttcccagaac ccacatgta cctcacaact | 300 |
| W--> 203 gcctatttca tacatgtggg gcagaacacc gatacacata ctttttttt taanaattga | 360 |
| 204 aaaaaaaaaaaa | 370 |
| 206 <210> SEQ ID NO: 12 | |
| 207 <211> LENGTH: 448 | |
| 208 <212> TYPE: DNA | |
| 209 <213> ORGANISM: Mus musculus | |
| 211 <220> FEATURE: | |
| 212 <221> NAME/KEY: misc_feature | |
| 213 <222> LOCATION: (1)...(448) | |
| 214 <223> OTHER INFORMATION: n = A,T,C or G | |
| 216 <400> SEQUENCE: 12 | |
| W--> 217 ctccttagt gagacngccc taggcagacc acntaccntt acccttctga aatctcggt | 60 |
| W--> 218 ctggaggatc tnggccnngga tcctgataacc cccattgccccc ccttagcnac ccatacctgac | 120 |
| W--> 219 naggaggagg aggaggagga ggaagaggag gagttgcttc tgngcctgg gctccagggc | 180 |
| W--> 220 gggctgcga ccaaggccct antcgatggat gantcctgcc ggcgggtgacc atcttccant | 240 |
| 221 ttgggcgcattt acctccttcc ttcccttcctt cccgtacctg aagcttctgg agtctggatg | 300 |
| W--> 222 attcanagcc gacanacctg gcngggatcc tgccctggcag ggaagggggt tgancntntt | 360 |
| W--> 223 ctgacttgct tttcccatcc catttctggg gcnnancnt tatcctaaat ttacccctaa | 420 |
| 224 ctcatggtgt ttcccgtggg tgacctaa | 448 |
| 226 <210> SEQ ID NO: 13 | |
| 227 <211> LENGTH: 394 | |
| 228 <212> TYPE: DNA | |
| 229 <213> ORGANISM: Mus musculus | |
| 231 <220> FEATURE: | |
| 232 <221> NAME/KEY: misc_feature | |
| 233 <222> LOCATION: (1)...(394) | |
| 234 <223> OTHER INFORMATION: n = A,T,C or G | |
| 236 <400> SEQUENCE: 13 | |
| W--> 237 tcctgatact gcttgntngg ggttagagctn cctgctcnta ctttctgccn naccnnatgc | 60 |
| W--> 238 tggAACCTGA gnatcnacat aattgcacct tctttctgg accagacatt attcggcggg | 120 |
| W--> 239 aatcggttcc ccacccctg acgtcataacc tggtgtctca nccnnngnat ttgaactgtg | 180 |

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001

TIME: 09:18:58

Input Set : A:\lex286usa SEQLIST.TXT

Output Set: N:\CRF3\10182001\I750456.raw

| | |
|--|-----|
| W--> 240 atcatctgag ccaaaatann ccaaagtata naagtcaaca aaggcaanat gctgnanatn | 240 |
| W--> 241 aaatggaaaa ccantcattt anaacatcat cnccctntn ctccgaggac ncttcgggtgc | 300 |
| W--> 242 ggatctggga tatcccnnan ggtgggctga aacggaacnt naccgaggga ctccctggagc | 360 |
| W--> 243 tcnatggana catgcgccat gtggggctgg tggta | 394 |
| 245 <210> SEQ ID NO: 14 | |
| 246 <211> LENGTH: 461 | |
| 247 <212> TYPE: DNA | |
| 248 <213> ORGANISM: Mus musculus | |
| 250 <220> FEATURE: | |
| 251 <221> NAME/KEY: misc_feature | |
| 252 <222> LOCATION: (1)...(461) | |
| 253 <223> OTHER INFORMATION: n = A,T,C or G | |
| 255 <400> SEQUENCE: 14 | |
| W--> 256 cgcacccggat tgggcagcan taacnacact gcaanaggan cctnctgcac acgtttatttg | 60 |
| W--> 257 gganagtntg attgnagagg tgannagacc ccgagccaa aactgggtgt gcttatata | 120 |
| W--> 258 gcctangaga ggantgtctc acacctggat tggttatgca ctacgcctca tttgcattgtat | 180 |
| W--> 259 cctcatctga ttggctactc tctctctgtt cctcacaag cctcattntc atacctcatt | 240 |
| W--> 260 tgcatgtctc acacctgatt gtttatantc tccaaacccc ctttattctg cccggggcnn | 300 |
| W--> 261 gcantgtctt tgcaaaaaac ttactgcat atgttcacat tggttgttg tccaaactta | 360 |
| W--> 262 tgcgtgggtgg ccancagtan tcagtgccac tctgcaacgg cacntgtggc ttcccacatc | 420 |
| 263 tcccccttt tggtttataaa aatgaggct gggacttaggc c | 461 |
| 265 <210> SEQ ID NO: 15 | |
| 266 <211> LENGTH: 301 | |
| 267 <212> TYPE: DNA | |
| 268 <213> ORGANISM: Mus musculus | |
| 270 <400> SEQUENCE: 15 | |
| 271 aagtgttccc taagaagggtt gtcaccctga cggagaacg gaaagccaa cagctccagc | 60 |
| 272 gcctcctgaa catgaagagc aaccccatatc agggcctggc tgcccactgg gattatgaaa | 120 |
| 273 agaaggagtg gaaaaagtga ccaacgtccc acgtctggcg ccagccccctg caaaactgctt | 180 |
| 274 ctgcagccca ggagacaatc atccccctccc ctccccctccc ctccctcctc ctcctgagtc | 240 |
| 275 ctgtctccac tcccttctcc aataaaagca gcctgctttg ttctgcttg aaaaaaaaaaaa | 300 |
| 276 a | 301 |
| 278 <210> SEQ ID NO: 16 | |
| 279 <211> LENGTH: 285 | |
| 280 <212> TYPE: DNA | |
| 281 <213> ORGANISM: Mus musculus | |
| 283 <220> FEATURE: | |
| 284 <221> NAME/KEY: misc_feature | |
| 285 <222> LOCATION: (1)...(285) | |
| 286 <223> OTHER INFORMATION: n = A,T,C or G | |
| 288 <400> SEQUENCE: 16 | |
| W--> 289 agttcctaa aatcanactc tgtcatcggn aagtgnagac tgtaacaaac tgggaccctc | 60 |
| W--> 290 acatgccnat aagcantcaa aaatatttnc tgggagctgg ananatgggc tcagcagttt | 120 |
| W--> 291 aaaacactga ctgctttcc ggangtcttg ttttcaaatacc caagcaacca cagggttaact | 180 |
| W--> 292 cacaaccatc tgtaatgana tctgatgccc tcttcgggtg tgtctnaaaa cagctacagt | 240 |
| 293 gtccttacat ataataaata aataaatctt ttttttaaaa gaata | 285 |
| 295 <210> SEQ ID NO: 17 | |
| 296 <211> LENGTH: 100 | |
| 297 <212> TYPE: DNA | |

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001
TIME: 09:18:59

Input Set : A:\lex286usa SEQLIST.TXT
Output Set: N:\CRF3\10182001\I750456.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:33 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:53 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:54 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:57 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:58 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:72 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:89 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:90 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:91 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:92 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:93 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:106 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:107 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:108 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:110 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:111 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:112 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:135 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:137 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:150 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:182 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:185 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:220 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:222 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:223 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:238 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:240 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:256 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:258 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/750,456

DATE: 10/18/2001

TIME: 09:19:00

Input Set : A:\lex286usa SEQLIST.TXT

Output Set: N:\CRF3\10182001\I750456.raw

L:260 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14

L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14

L:262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14

L:289 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16